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October 2, 1996

Michael R. Brown
Environmental Manager
Continental Lime
3950 South 700 East, Suite 301
Salt Lake City, Utah 84107

Re: Initial Plan Review of Permit Revision, Continental Lime, Inc., Cricket Mountain Mine, M/027/006, Millard County, Utah

Dear Mr. Brown:

The Division has completed a review of your Notice of Intention to Revise Large Mining Operations for the Cricket Mountain Project, located in Millard County, Utah, which was received April 8, 1996. After reviewing the information, the Division has the following comments which will need to be addressed before we can issue tentative approval of the project revision. The comments are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion.

R647-4-104 - Filing Requirements and Review Procedures

The Division has determined this modification to be a significant revision to the existing large mining operations notice of intention rather than an amendment. A revision is considered to be a major change to the approved permit which will require publication of a tentative approval notice initiating a formal 30-day public comment period . (AAG)

R647-4-105 - Maps, Drawings & Photographs

105.2 Surface facilities map

Do the acreages listed in Table 2.1 reflect the areas shown within borders on Drawings 3-1 and 3-2? Was an allowance made in the values shown in Table 2.1 for disturbance in and around the BB Dolomite Surface facilities which would occur outside the boundaries shown on Drawing 3-1 for the screened stone and crusher? (AAG)

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)

Please identify areas which are proposed to remain unreclaimed or areas which will remain steeper than 3H:1V on drawings 3-1 and 3-2 as well. (AAG)

Page 4-2, section 4.5 describes the use of physical barriers such as berms above highwalls to prevent public access. Please provide a typical cross section of the proposed berms. (AAG)

Please provide cross sectional drawings of the typical bench and interbench highwall configuration for each of the new quarries. If these highwall features will differ greatly in other portions of the quarry, please provide typical cross sections for these other portions. (AAG)

R647-4-106 - Operation Plan

106.2 Type of operations conducted, mining method, processing etc.
Please describe the quarry bench and interbench highwall configurations proposed for the new quarries. Also see the comment under R647-4-105.3. (AAG)

106.5 Existing soil types, location, amount
Please provide an analysis of each soil type. Attached is a list of parameters that each soil should be analyzed for. This analysis will help determine the type and rates of amendments that may be required for reclamation. (LK)

Page 3-8, section 3.7 of the submission states the estimated volume of salvageable topsoil for the BB Dolomite area is 36,619 cubic yards. Page 5-5, section 5.7.1 estimates this volume as 39,796 cubic yards. Please explain this discrepancy. (AAG)

106.6 Plan for protecting & redepositing soils
Please refer to comments under R647-4-107.5

106.7 Existing vegetation - species and amount
Please provide the results of a vegetation survey for the areas that will be impacted by this revision. This survey should include for each vegetation type, the dominant species, and the percent of vegetation ground cover. A vegetation map showing the locations of each vegetation type would also be helpful. (LK)

106.8 Depth to groundwater, extent of overburden, geology
The discussion regarding overburden and geology is adequately covered , but there was no discussion regarding the occurrence and depth of groundwater in the areas to be mined. The plan identifies a well used for watering roads and process water. Location information, from what aquifer the water is withdrawn, and how the well was completed are not found in this plan. Please provide this information. (TM)

R647-4-107 - Operation Practices

107.1.14 Posting warning signs
Please describe the locations of any signs warning the public of the safety hazards associated with the mine project. (AAG)

107.1.15 Constructing berms, fences, etc. above highwalls
Please identify the location(s) of proposed berms or fences which will be in place during operations to prevent public access to highwalls or other mine hazards as mentioned in section 4.5 of the submission. Please describe these features and show their locations on the appropriate drawings. (AAG)

107.2 Drainages to minimize damage
The application makes no mention of ponds or impoundments although the overburden disposal area #1 associated with the Flat Iron Quarry will impound an ephemeral drainage. It appears that the Flat Iron quarry will also intercept another ephemeral drainage. Will the undersize material stockpile in the BB Dolomite quarry area incorporate any design features to bypass or reroute the drainage which will be blocked? Please provide some specifics on all drainages ephemeral or otherwise that will be affected. Please describe the mining-related impacts to the drainages and how these impacts will be mitigated. (TM)

107.3 Erosion control & sediment control
The operator must consult the Division of Water Quality to determine if a Storm Water Permit is required. (TM)

107.5 Suitable soils removed & stored
The application states that small pockets of soil in areas that otherwise would not have topsoil salvaged will not be salvaged. Please note, with the projected estimate of 78,136 cubic yards of soil that can be salvaged, and at the planned 4-7 inch depth of respreading the topsoil, only about 1/3 of the proposed disturbance will be covered with topsoil. Please change your plans to salvage and stockpile all topsoil that can be safely obtained. (LK)

107.6 Concurrent reclamation
Please describe the mining sequence and how areas will be reclaimed concurrently. Please provide a better discussion regarding the status and success of the current reclamation test plots. How have the existing revegetation test plots been evaluated/inventoried and what information has been gained? Can this information be used in determining the future reclamation success of the mine site? (TM)

R647-4-109 - Impact Assessment

109.1 Impacts to surface & groundwater systems
The potential impacts to surface water have not been appropriately discussed since several ephemeral drainages will be intercepted and blocked by waste dumps. Please address the impacts associated with all intercepted drainages and what the final drainage configuration plans will be following reclamation. (TM)

109.4 Slope stability, erosion control, air quality, safety
Please describe the proposed highwall configurations for the new quarry areas. Please provide information describing the stability of these proposed highwall configurations. Will

berms, fences, and signs remain in place above accessible highwalls after final reclamation? (AAG)

R647-4-110 - Reclamation Plan

110.1 Concurrent & post mining land use
The proposed postmining land use is for wildlife habitat, grazing and limited recreation. This plan is acceptable. However, the reclamation plan needs some revision in order to achieve this objective. Leaving over half of the area unrevegetated is not consistent with these landuses (See comments under R647-4-110.5). (LK)

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed
The footnote under Table 3.1 describes the overall slopes of the overburden areas as being 2H:1V. Page 5-3 section 5.6.2, page 5-6 section 5.7.2, and notes on Drawing 5-1 state the slopes between the benches will be left at angle of repose. Please explain the conflicting descriptions of the overburden slopes. (AAG)

Page 5-3 section 5.6.3 and notes on Drawing 5-1 state the facilities areas will be scarified as part of final reclamation. Compacted facility areas should be ripped to a minimum depth of 18 inches rather than scarifying. All road reclamation as described in section 5.6.5 and in the notes on Drawing 5-1 should also include ripping rather than scarifying. (AAG)

Page 5-3, section 5.6.4 describes the slopes of the screened undersized material stockpile at the BB Dolomite Quarry as being regraded to 3H:1V. The notes on Drawing 5-1 imply that only the north slope of this undersize material stockpile will be regraded to 3H:1V. Are these statements consistent? (AAG)

Please describe the proposed dimensions of the lifts and benches for the Poison Mountain undersize material stockpile expansion. Section 5.6.4 and the notes on Drawing 5-1 state the slopes of this stockpile will remain as is to minimize the potential for blocking the stream channel to the North. The Division assumes this to mean the slopes will remain at angle of repose. The 1993 Final Reclamation Treatments Map Figure 4.0-2 indicates the north slope of the rejects stockpile would be regraded to 3H:1V and the top and slopes would be covered with 5 inches of topsoil. The new undersize material stockpile appears to be an extension of this rejects stockpile. Please explain why the extension of this dump slope should not be regraded to a 3H:1V configuration as in the currently approved plan. (AAG)

110.3 Description of facilities to be left (post mining use)
Since no variances were requested with this proposal, it is assumed that all facilities and disturbances associated with this revision will be reclaimed. (LK)

110.5 Revegetation planting program
While there is no breakdown of the acreage that will actually be revegetated, it appears that seeding will only take place on areas that will receive topsoil. This amounts to just over 100

acres, or about 1/3 of the total disturbance. Currently, the Division will only consider a variance to revegetation on areas of solid rock (e.g. rock highwalls), water areas, or roads approved for the post mining land use. Waste dump slopes, pit benches, and the undersize material stockpile slopes will need to be seeded. Since sufficient topsoil cannot be salvaged to cover all disturbed areas, the applicant needs to consider ways to 'make-up' the topsoil shortage so that vegetation can be re-established. This can be done by finding borrow areas, or adding amendments to materials so that the 'non-topsoil' material can support vegetation. Several other companies have had great vegetation success on waste materials using biosolids or composted manure at rates of 20 to 30 tons per acre. These soil amendments should be part of the vegetation testplot design.

An evaluation of the proposed seed mix shows that it would be compatible with the proposed post mining land use. However, some of the species are very difficult to establish (even on favorable areas). Attached for your consideration is an amended seed mix that would be easier to establish at your site. If acceptable, please incorporate it into your mine plan and testplot design.

Section 5.8 of the submission describes a seed mixture, and the possibility of using mulch and fertilizer. The submission proposes basing the use of mulch and fertilizer on the outcome of revegetation experimentation. This proposal is acceptable to the Division, provided a specific seed mix and seeding rate, mulch rate, and fertilizer rate are agreed upon now and modified later during the project life based on the outcome of the revegetation experiments. Having these revegetation treatments defined now will simplify the calculation of the reclamation estimate. Section 5.8.4 describes the broadcast seeding as being followed by harrowing. The Division would prefer the seeded areas not be harrowed, but left is a roughened condition. (LK, AAG)

R647-4-111 - Reclamation Practices

1.12 Disposal of trash & debris
Page 5-3, section 5.6.3 describes the reclamation of the crushing and screening facilities at Poison Mountain which is addressed in the existing approved plan. The Division will allow the onsite burial of inert materials (such as broken concrete foundations) provided these materials are covered with a minimum of three (3) feet of overburden or soil and provided the landowner(s) are in agreement with this practice. (AAG)

111.2 Reclamation of natural channels
See comments under R647-4-107.2. (TM)

111.5 Land capable of post mining land use
Please refer to comments under R647-4-110.1 and -110.5. (LK)

111.12 Topsoil redistribution
Please refer to comments under R647-4-110.5. (LK)

R647-4-112 - Variance

The submission contained no variance section although the reclamation plan described practices which vary from the rules. Variation from rules R647-4-107 Operation Practices, R647-4-108 Hole Plugging Practices, or, R647-4-111 Reclamation Practices requires a variance. All variance requests should follow the format described in section R647-4-112 of the Minerals Rules. The Division will not make a decision on these implied variances until the additional information requested by this letter has been provided. (AAG)

Section 5.6.1 of the submission states quarry benches will not be reclaimed. Leaving these benches untopsoiled and unvegetated would require a variance from R647-4-111.12 and 4-111.13. The submission did not contain a description of the proposed highwalls in the new quarries; therefore, it is unknown if a variance to rule R647-4-111.7 is also warranted. (AAG)

Section 5.6.2 of the submission states that the tops of the overburden disposal areas will be topsoiled and seeded. The slopes between benches (and the benches) will be left as is. Leaving these slopes and benches untopsoiled and unvegetated requires variances from rules R647-4-111.12 and 4-111.13. (AAG)

Section 5.6.4 of the submission states that the slopes of the Poison Mountain undersize material stockpile expansion will remain as is (read as remaining at angle of repose). Leaving these slopes untopsoiled and unvegetated requires variances from rules R647-4-111.12 and 4-111.13. (AAG)

> Note: In a 8/4/89 letter, DOGM granted a variance to allow highwalls at 58-82 degrees to remain; however, highwalls which show signs of instability through failure during the life of the mine would require remedial action such as slope reduction to 45 degrees by Continental Lime. Continental Lime was to rip/scarify quarry benches to 12 inches and place 6 inches of fines. DOGM refused a variance for waste dump slopes at angle of repose and required 3H:1V slopes. DOGM granted a variance to allow the main road from the plant to the first switchback in the quarry (Poison Mtn.) to remain & the BLM agreed with it.

R647-4-113 - Surety

The submission did not contain an estimate of the reclamation costs. From telephone conversations, the operator's intent is to provide an estimate of the reclamation costs after the details of the reclamation are agreed upon. In addition, there are several variances which would affect specific reclamation tasks and therefore costs. Please provide a reclamation estimate for this proposal which is in agreement with the reclamation treatments map and these latest Division comments. (AAG)

Section 5.13 of the submission stated the current surety posted jointly with the Division and BLM was in the amount of $179,000. The current amount of surety posted is $330,400. (AAG)

The Division will suspend further review of this revision to the Cricket Mountain Mine notice until your response to this letter is received. If you have any questions in this regard please contact me, Tony Gallegos, Lynn Kunzler, or Tom Munson of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb
Attachment: Division Proposed Seed Mix
Recommended Soil Parameters
cc: Sheri Wysong, BLM Warm Springs RA
Larry Mike, DWQ, Ground Water
Harry Campbell, DWQ, Storm Water
Mary Ann Wright, DOGM
m027006.rev

Recommended Revegetation Species List for the
Cricket Mountain Mine Project
M/027/006

Common Name	Species Name	*Rate lbs/ac (PLS)
'Hycrest' crested wheatgrass	*Agropyron cristatum 'hycrest'*	1.0
Intermediate wheatgrass	*Agropyron intermedium*	2.0
Western wheatgrass	Agropyron smithii	2.0
Indian ricegrass	*Oryzopsis hymenoides*	2.5
Yellow sweetclover	*Melilotus officinalis*	0.5
Scarlet globemallow	*Sphaeralcea coccinea*	0.5
4-wing saltbush	*Atriplex canescens*	1.0
Shadscale	*Atriplex confertifolia*	1.0
Rubber rabbitbrush	Chrysothanmus nauseosus	0.5
Forage kochia	*Kochia prostrata*	0.5
	Total Seed	**11.5 lbs/ac**

Prepared by DOGM September 19, 1996

M027006.sdm

Division of Oil, Gas and Mining

Minerals Program

Baseline Soils and Overburden

Recommended Laboratory Analyses

for each soil type to be disturbed

Continental Lime Inc.
Cricket Mountain Project

M/027/006

1. Texture
2. pH
3. EC (conductivity)
4. SAR
5. Saturation Percentage
6. Percent Organic Matter
7. CEC (cation exchange capacity)
8. Total nitrogen
9. Nitrate nitrogen
10. Phosphorus (as P_2O_5)
11. Potassium (as K_2O)

Provide a soils map which identifies the extent of each soils type within the permit area (it may be possible to obtain this map from the Soil Conservation Service), and show the location(s) of any proposed topsoil and overburden stockpiles.

Provide an estimate of the average depth of soil and the volume of soil material that can be salvaged and used later for reclamation (please note, even an inch or two of topsoil can greatly improve reclamation success!).